TPDES PERMIT NO. 01811
[For TNRCC office use only -
EPA I.D. No. TX0063215]

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
P. O. Box 13087
Austin, Texas 78711-3087

This permit supercedes and replaces TPDES Permit No. 01811, issued on March 22, 2000.

PERMIT TO DISPOSE OF WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Southwestern Electric Power Company

whose mailing address is

P.O. Box 21106
Shreveport, Louisiana 71156

is authorized to treat and dispose of wastes from the Welsh Power Plant (SIC 4911)

located approximately two miles northwest of the Town of Cason and approximately one and one-half miles north of State Highway 11, Titus County, Texas

to Welsh Reservoir; thence to Swauano Creek; thence to Big Cypress Creek Below Lake Bob Sandlin in Segment No. 0404 of the Cypress Creek Basin

only according to effluent limitations, monitoring requirements and other conditions set forth in this permit, as well as the rules of the Texas Natural Resource Conservation Commission (TNRCC), the laws of the State of Texas, and other orders of the TNRCC. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight March 22, 2003.

ISSUED DATE: MAY 18 2001

For the Commission

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge low volume wastes (*1) ash transport water (*2), and previously monitored effluents (PME's-coal pile runoff, metal cleaning wastes, and stormwater) subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 20 million gallons per day (MGD). The daily maximum flow shall not exceed 60 MGD.

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	(mg/L)	lbs/day	(mg/L)	mg/L	Measurement Frequency	Sample Type
Flow (MGD)	(Report)		(Report)		N/A	Continuous	Record
Total Suspended Solids	5007	30	16690	100	100	1/ two weeks	Grab
Oil and Grease	2504	15	3338	20	20	1/ two weeks	Grab
Total Selenium	2.17	0.013	4.51	0.027	0.03	1/week	Grab
Total Aluminum (*3)	(Report)	(Report)	(Report)	(Report)	N/A	1/week	Grab

   (*1) See Other Requirements, Item No. 9.
   (*2) See Other Requirements, Item No. 6.
   (*3) See Other Requirements, Item No. 20.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 001, at the discharge from the secondary bottom ash pond settling basin prior to discharge to Welsh Reservoir.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 101

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge chemical metal cleaning wastes (*1), coal pile runoff (*2), and storm water subject to the following effluent limitations:

   Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/l	Daily Maximum mg/l	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow (MGD)	(Report)	(Report)	N/A	1/day (*3)	Estimate
Total Iron	1.0	1.0	1.0	1/week (*3)	Grab (*4)
Total Copper	0.5	1.0	1.0	1/week (*3)	Grab (*4)

   (*1) See Other Requirements, Item No. 8.
   (*2) See Other Requirements, Item No. 10.
   (*3) When discharge occurs.
   (*4) Since more than one source may be associated with this category, a grab sample from each source may be combined either physically or arithmetically into a single flow weighted sample for analysis and reporting.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 101, at the discharge from the Acid Wash Pond prior to mixing with any other wastewaters.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 002

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge treated domestic wastewater subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 0.006 million gallons per day (MGD). The daily maximum flow shall not exceed 0.010 MGD.

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	mg/L	lbs/day	mg/L	mg/L	Measurement Frequency	Sample Type
Flow (MGD)	(Report)		(Report)		N/A	1/day	Estimate
Biochemical Oxygen Demand (5-day)	1.0	20	2.3	45	45	1/week	Grab
Total Suspended Solids	1.0	20	2.3	45	45	1/week	Grab
Total Copper (*1)	N/A	Report	N/A	Report	N/A	1/week	Grab
Total Copper (*2)	0.0012	0.023	0.0025	0.049	0.049	1/week	Grab

   (*1) Beginning upon date of permit issuance and lasting for three years.
   (*2) Beginning three years after permit issuance and lasting through date of permit expiration.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week, by grab sample.

3. The effluent shall contain a chlorine residual of at least 1.0 mg/l and a maximum chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes (based on peak flow), and shall be monitored 1/week, by grab sample. The sample shall be taken at the chlorine contact chamber, prior to final filtration and discharge through Outfall 002. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

5. Effluent monitoring samples shall be taken at the following location: At Outfall 002, at the discharge from the sewage treatment system prior to discharge into Welsh Reservoir.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 003

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge once through cooling water (*1) subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 1425 million gallons per day (MGD). The daily maximum flow shall not exceed 1425 MGD.

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	(mg/L)	lbs/day	(mg/L)	mg/L	Measurement Frequency	Sample Type
Flow (MGD)	(Report)		(Report)		N/A	1/ 2 hours	Calculated
Temperature (degrees F)	(Report) (*2)		(Report) (*2)		N/A	1 2 hours	In-Situ
Free Available Chlorine (*3)	198	0.2	495	0.2	N/A	1/week (*4)	Grab
Total Residual Chlorine (*5)	N/A	N/A	198	0.2	N/A	1/week (*4)	Grab

   (*1) See Other Requirements, Item No. 11.
   (*2) See Other Requirements, Item No. 3.
   (*3) See Other Requirements, Item No. 5.
   (*4) Samples shall be representative of periods of chlorination. Sampling is required only if there is chlorination during a calendar week.
   (*5) See Other Requirements, Item No. 4.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 003, where once through cooling water is discharged from the onsite discharge canal into Welsh Reservoir. If cooling towers are in use, a grab sample shall be taken at the discharge from the cooling towers prior to discharge into Welsh Reservoir and from the onsite discharge canal into Welsh Reservoir. The samples shall be combined either physically or arithmetically into a single flow weighted sample for analysis and reporting.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§ 305.121 - 305.129, Subchapter F, "Permit Characteristics and Conditions" as promulgated under the Texas Water Code §§ 5.103 and 5.105, and the Texas Health and Safety Code §§ 361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Section 26.001 of the Texas Water Code and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some Specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

   a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with a 1 million gallons per day or greater permitted flow.

   b. Daily average flow - the arithmetic average of all determinations of the daily discharge within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily discharge, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

   c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

   d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

   e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. Multiple measurements of instantaneous maximum flow within a two-hour period may be compared to the permitted 2-hour peak flow.

   f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calender month.

2. Concentration Measurements

   a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements. When four samples are not available in a calendar month, the arithmetic average of the four most recent measurements or the arithmetic average (weighted by flow) of all values taken during the month shall be used as the daily average concentration.

   b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

   c. Daily maximum concentration - the maximum concentration measured on a single day, by composite sample unless otherwise specified elsewhere in this permit, within a period of one calender month.

   d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

      The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

   e. Fecal coliform bacteria concentration - the number of colonies of fecal coliform bacteria per 100 milliliters effluent. The fecal coliform bacteria daily average is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all

measurements made in a particular period of time. For example in a month's time, where n equals the number of measurements made; or, computed as the antilogarithm of the sum of the logarithm of each measurement made. For any measurement of fecal coliform bacteria equaling zero, a substituted value of one shall be made for input into either computation method.

3. Sample Type

   a. Composite sample - for domestic wastewater a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected no closer than two hours apart. For industrial wastewater a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected no closer than one hour apart.

   b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids which have not been classified as hazardous waste separated from wastewater by unit processes .

6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

   Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, a monthly effluent report shall be submitted each month, to the location(s) specified on the reporting form or the instruction sheet, by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month. Monitoring results must be reported on the approved TPDES self-report form, Discharge Monitoring Report (DMR) Form EPA No. 3320-1, signed and certified as required by Monitoring and Reporting Requirements No. 10.

   As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act, the Texas Water Code, Chapters 26, 27, and 28, and Texas Health and Safety Code, Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

   Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of

all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR § 264.73(b)(9) shall be retained at the facility site and/or shall be readily available for review by a TNRCC representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

c. Records of monitoring activities shall include the following:

i. date, time and place of sample or measurement;
ii. identity of individual who collected the sample or made the measurement.
iii. date and time of analysis;
iv. identity of the individual and laboratory who performed the analysis;
v. the technique or method of analysis; and
vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that maybe instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved TPDES self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

All automatic flow measuring and/or recording devices and/or totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TNRCC representative for a period of three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Manager of the Water and Multimedia Section (MC 149) of the Enforcement Division.

7. Noncompliance Notification

a. In accordance with 30 TAC § 305.125(9) any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TNRCC. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Manager of the Water and Multimedia Section (MC 149) of the Enforcement Division within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

i. Unauthorized discharges as defined in Permit Condition 2(g).
ii. Any unanticipated bypass which exceeds any effluent limitation in the permit.
iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Manager of the Water and Multimedia Section (MC 149) of the Enforcement Division within 5 working days of becoming aware of the noncompliance.

d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Water Quality Management Information Systems Team (MC 224) of the Enforcement Division as promptly as possible. This requirement means to report these types of noncompliance on the approved TPDES self-report form.

8. In accordance with the procedures described in 30 TAC §§ 305.21, 305.22 and 305.23 (relating to Emergency Orders, Temporary Orders and Executive Director Authorizations) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Manager of the Water and Multimedia Section (MC 149) of the Enforcement Division in writing within five (5) working days, after becoming aware of or having reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. One hundred micrograms per liter (100 µg/L);
ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
iv. The level established by the TNRCC.

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. Five hundred micrograms per liter (500 µg/L);
ii. One milligram per liter (1 mg/L) for antimony;
iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
iv. The level established by the TNRCC.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the CWA if it were directly discharging those pollutants;

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

c. For the purpose of this paragraph, adequate notice shall include information on:

i. The quality and quantity of effluent introduced into the POTW; and
ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

   a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

   b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application in accordance with 30 TAC Chapter 50 and the application process in accordance with 30 TAC Chapter 281, and relying upon the accuracy and completeness of that information and those representations in accordance with 30 TAC Chapter 305. After notice in accordance with 30 TAC Chapter 39 and opportunity for a hearing in accordance with 30 TAC §§ 55.21 - 55.31, Subchapter B, "Hearing Requests, Public Comment", this permit may be modified, suspended, or revoked, in whole or in part in accordance with 30 TAC Chapter 305 Subchapter D, during its term for cause including but not limited to, the following:

      i. Violation of any terms or conditions of this permit;
      ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
      iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

   c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

   a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

   b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or of an application for a permit for another facility.

   c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

   d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation which has a reasonable likelihood of adversely affecting human health or the environment.

   e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

   f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and the Texas Water Code Section 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

   g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to waters in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

   h. In accordance with 30 TAC § 305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility which does not cause permitted effluent limitations to be exceeded, but only if the diversion is also for essential maintenance to assure efficient operation.

   i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§ 26.136, 26.212, and 26.213 for violations including but not limited to negligently or knowingly violating the federal Clean Water Act, §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections

in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

   a. Inspection and entry shall be allowed as prescribed in the Texas Water Code Chapters 26, 27, and 28, and Texas Health and Safety Code Chapter 361.

   b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in Texas Water Code Section 7.002.

4. Permit Amendment and/or Renewal

   a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC § 305.534 (relating to New Sources and New Dischargers); or

      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 8 and as adopted by 30 TAC § 305.531(a) (relating to Establishing and Calculating Additional Conditions and Limitations for TPDES Permits);

      iii The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   b. Prior to any facility modifications, additions and/or expansions of a permitted facility that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

   c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. Authorization to continue such activity will terminate upon the effective denial of said application.

   d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

   e. In accordance with the Texas Water Code § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The

permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Water Quality Applications Team (MC 148) of the Registration & Evaluation Division.

   b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.33 (relating to Executive Director Action on Application for Transfer).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing, or disposal which requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

   Disposal of treated effluent by any means other than discharge directly to the waters in the state must be specifically authorized in this permit and may require a permit pursuant to Chapter 11 of the Texas Water Code.

8. Property Rights

   A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

   The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control such as the Commission's "Recommendations for Minimum Process Control Tests for Domestic Wastewater Treatment Facilities." Process control records shall be retained at the facility site and/or shall be readily available for review by a TNRCC representative for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all provisions of 30 TAC §§ 312.1 - 312.13 concerning sewage sludge use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Permits & Resource Management Division, in writing of any closure activity or facility expansion at least 90 days prior to conducting such activity.

   b. Closure activities include those associated with any pit, tank, pond, lagoon, or surface impoundment regulated by this permit.

   c. As part of the notification, the permittee shall submit to the Municipal Permits Team (MC 148) of the Wastewater Permitting Section of the Water Permits & Resource Management Division, a closure plan which has been developed

in accordance with the "Closure Guidance Documents Nos. 4 and 5" available through the Publications Inventory and Distribution Section (MC 195) of the Agency Communications Division.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual waste treatment fee to the Commission as required by 30 TAC Chapter 305 Subchapter M and an annual water quality assessment fee to the Commission as required by 30 TAC Chapter 320. Failure to pay either fee may result in revocation of this permit.

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for applications, effluent data, permits, and other data specified in 30 TAC § 305.46, any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice.

8. Facilities which generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75 percent of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever, the flow reaches 90 percent of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75 percent of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgement of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Water Permits & Resource Management Division (MC 148) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

   b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

   c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 325.

10. For publicly owned treatment works, the 30-day average (or Monthly average) percent removal for BOD and TSS shall not be less than 85 percent, unless otherwise authorized by this permit.

11. Facilities which generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:

    a. Any solid waste generated by the permittee during the management and treatment of wastewater, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid) must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

    b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

    c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.6(g), to the Corrective Action Section (MC 127) of the Industrial and Hazardous Waste Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

    d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Waste Evaluation Section (MC 129) of the Industrial and Hazardous Waste Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.

    e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

    f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

        i. Volume of waste and date(s) generated from treatment process;
        ii. Volume of waste disposed of on-site or shipped off-site;
        iii. Date(s) of disposal;
        iv. Identity of hauler or transporter;
        v. Location of disposal site; and
        vi. Method of final disposal.

        The above records shall be maintained on a monthly basis. The records shall be retained at the facility site and/or shall be readily available for review by authorized representatives of the TNRCC for at least five years.

12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with Chapter 361 of the Health and Safety Code of Texas.

TNRCC Revision 3/2000

OTHER REQUIREMENTS

1. Violations of daily maximum limitations for the following pollutants shall be reported orally to TNRCC Region 5 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five days:

Pollutant	MAL (mg/l)
Total Copper	0.010
Total Aluminum	0.030
Total Selenium	0.010

Test methods utilized to determine compliance with the permit limitations shall be sensitive enough to detect the parameters listed above at the minimum analytical level (MAL). Permit compliance/noncompliance determinations will be based on the effluent limitations contained in this permit with consideration given to the MAL for toxic organic and toxic inorganic parameters. When an analysis of an effluent sample for these parameters results in a measurement of less than the MAL, that parameter shall be reported as "< (MAL value)" and this shall be interpreted as a value of zero (0) for compliance purposes.

2. There shall be no discharge of polychlorinated biphenyl transformer fluid.

3. The flow weighted average temperature (FWAT) shall be computed and recorded on a daily basis. FWAT shall be computed at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:

$$\text{FWAT} = \frac{\text{SUMMATION (INSTANTANEOUS FLOW X INSTANTANEOUS TEMPERATURE)}}{\text{SUMMATION (INSTANTANEOUS FLOW)}}$$

The "daily average temperature" shall be the arithmetic average of all FWAT's calculated during the calendar month.

The "daily maximum temperature" shall be the highest FWAT calculated during the calendar month.

4. The term "total residual chlorine" (or total residual oxidants for intake water with bromides) means the value obtained using the amperometric method for total residual chlorine described in 40 CFR Part 136.

Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control.

Simultaneous multi-unit chlorination is not permitted.

5. The term "free available chlorine" shall mean the value obtained using the amperometric titration method for free available chlorine described in "Standard Methods for the Examination of Water and Wastewater".

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the permittee can demonstrate to the permitting Agency that the units in a particular location cannot operate at or below the limitations specified in this permit.

6. The term "ash transport water" shall mean water used in the transport of either fly ash or bottom ash.

7. The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

8. The term "chemical metal cleaning waste" means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

9. The term "low volume waste sources" means, wastewaters from, but not limited to: wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, boiler blowdown, laboratory and sampling streams, floor drainage, cooling tower basin cleaning wastes, and blowdown from recirculating house service water systems. Sanitary and air conditioning wastes are not included.

10. The term "coal pile runoff" means the rainfall runoff from or through any coal, ash or other material storage pile.

11. The term "once through cooling water" means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

12. The term "fly ash" means the ash that is carried out of the furnace by the gas stream and collected by mechanical precipitators, electrostatic precipitators, and/or fabric filters. Economizer ash is included when it is collected with fly ash.

13. The permittee shall conduct effluent sampling and reporting in accordance with 30 TAC 319.4 - 319.12. A monthly effluent report must be submitted each month by the 25th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month.

    This provision supersedes and replaces the first paragraph of Provision 1 Self-Reporting as defined on Page 4 of this permit.

14. The following table describes the ponds authorized by this permit:

Pond No.	Wastewater Type	Surface Area (Acres)	Capacity (Ac-Ft)	Liner Type
1-Primary Ash Pond	Ash transport water, low volume waste, coal pile runoff	23	200	Native clay
2-Secondary Ash Pond	Same as pond 1	3	30	Native clay
3-Acid Wash Pond	Metal cleaning wastes	0.5	6	Native clay

15. All new wastewater ponds shall be lined in compliance with one of the following requirements:

    a. Soil Liner: The soil liner shall contain at least three feet of clay-rich (liquid limit greater than or equal to 30 and plasticity index greater than or equal to 15) soil material along the sides and bottom of the pond compacted in lifts of no more than 9 inches, to 95% standard proctor density at the optimum moisture content to achieve a permeability equal to or less than 1×10^{-7} cm/sec.

b. Synthetic/Plastic/Rubber Liner: The liner shall be either a plastic or rubber membrane liner at least 30 mils in thickness which completely covers the sides and the bottom of the pond and which is not subject to degradation due to reaction with wastewater with which it will come into contact. If this lining material is vulnerable to ozone or ultraviolet deterioration it shall be covered with a protective layer of soil of at least six inches. A leak detection system is also required.

c. Alternate Liner: The permittee shall submit plans for any other pond lining method. Pond liner plans must be approved in writing by the Executive Director of the Texas Natural Resource Conservation Commission (TNRCC) prior to pond construction.

The permittee shall furnish certification by a Liscensed Professional Engineer that the completed pond lining meets the appropriate criteria prior to utilization of the facilities. The permittee shall notify the TNRCC Regional Office upon completion of construction of any pond and at least a week prior to its use.

16. The permittee shall maintain a minimum two foot freeboard for all wastewater ponds.

17. All coal shall be stored in such a manner that stormwater runoff is diverted to the ash ponds.

18. There shall be no discharge of domestic sewage via Outfall 003. All sewage shall be routed to a septic tank/drainfield system or discharged via Outfall 002 after receiving treatment.

19. For Outfall 001, 002, and 003 chronic toxic criteria apply at the edge of the mixing zone. The mixing zone is defined as a volume of water within a radius of 100 feet extending over the receiving water from the point where the discharge reaches Welsh Reservoir.

20. Variance Extension to the Texas Surface Water Quality Standards

a. In accordance with 30 TAC § 307.2(f) the permittee is granted a variance extension to the existing acute aquatic-life criteria for aluminum in the Texas Surface Water Quality Standards (30 TAC Chapter 307) for Welsh Reservoir in Segment No. 0404 of the Cypress Creek River Basin.

b. Should a site specific standard for aluminum for Welsh Reservoir be adopted into the Texas Surface Water Quality Standards, the permittee may apply for a permit amendment to have the final effluent limitations for total aluminum re-evaluated using the new site-specific standard.

c. The following final effluent limitations for total aluminum will become effective immediately in a reissued permit if the Texas Surface Water Quality Standards for aluminum and/or the Implementation of the TNRCC Standards Via Permitting is not revised or an additional variance extension is not granted.

Outfall Number	Pollutant	Daily Average	Daily Maximum
001 (formerly and 101)	Total aluminum	1.4 mg/l 234 lbs/day	2.9 mg/l 484 lbs/day

21. Welsh Reservoir is permitted as an industrial cooling impoundment under Certification of Adjudication No. 04-4576, and is exempt from numeric temperature criteria or a maximum temperature differential as provided in 30 TAC § 307.4(f). Welsh Reservoir shall be maintained so as not to interfere with the reasonable use of such waters.

22. Selenium Monitoring Program:

a. Program Objectives:

The program should be designed to meet the following objectives:

(1.) To monitor selenium concentration in the fish of Welsh Reservoir;

(2.) To estimate the quantity of selenium being discharged into the reservoir; and

(3.) To determine fate of additional selenium input to the reservoir and evaluate impacts.

b. Within 60 days after the effective permit date, the permittee shall submit a revised Scope-of-Work document that includes specific technical details of the Selenium Monitoring Program to be initiated at Welsh Reservoir.

The monitoring program shall be conducted in November for fish tissue and shall continue for the life of the permit or until the Water Quality Assessment Team, Water Permits & Resource Management Division of the TNRCC determines that permit modification is appropriate.

c. Muscle tissue samples from largemouth bass shall be collected for the analysis of selenium. The collection area will be the three areas designated in the previous Selenium Monitoring Program Scope-of-Work document. Every reasonable effort shall be made to collect only fish 18 inches and longer (the legal size limit for human consumption at the reservoir). Fish less than 12 inches shall not be included in analysis under any circumstances. A minimum of 20 bass will be collected per year.

d. After each year of collection and analysis, fish data shall be evaluated in order to detect trends in selenium accumulation dynamics. The permittee shall submit an annual report each year for the life of the permit which summarizes the monitoring program data and analyzes conformance with the study objectives. Upon evaluation of each annual report, the monitoring program may be modified as needed. The annual report shall be submitted to the Water Quality Assessment Team (MC-150), Water Permits & Resource Management Division of the TNRCC.

e. All fish collections should be accompanied by standard physico-chemical measurements (e.g., dissolved oxygen, temperature, and pH). Instrumental Neutron Activation Analysis (INAA) shall be the method of analysis utilized to determine selenium in the tissues.

f. During review periods there shall be no interruption of data collection. Data generated during this monitoring program shall be provided in a form that is readily compatible with the computer database used by the TNRCC.

g. Revisions to the Selenium Monitoring Program must be approved by the Water Quality Assessment Team (MC-150), Water Quality Division of the TNRCC prior to initiating any modification(s).

23. Schedule of Compliance for Water Quality Based Effluent Limits

The permittee shall comply with the following schedule of activities for the attainment of water quality-based final effluent limitations for total copper at Outfall 002:

a. Determine exceedance cause(s);
b. Develop control options;

c. Evaluate and select control mechanisms;
d. Implement corrective action; and
e. Attain final effluent limitations no later than three years from the date of permit issuance.

The permittee shall submit quarterly progress reports in accordance with the following schedule. The requirement to submit quarterly progress reports shall expire three years from the date of permit issuance.

PROGRESS REPORT DATE
January 1
April 1
July 1
October 1

The quarterly progress reports shall include a discussion of the interim requirements that have been completed at the time of the report and shall address the progress towards attaining the water quality-based final effluent limitations for total copper at Outfall 002 no later than three years from the date of permit issuance.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

All reports shall be submitted to the Region 5 Office and to the Water Quality Management Information Systems Team (MC 224), Enforcement Division of the TNRCC.

CHRONIC BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this Section apply individually and separately to Outfalls 001 and 003 for whole effluent toxicity testing (biomonitoring).

1. Scope, Frequency and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival, reproduction, or growth of the test organism(s). Toxicity is herein defined as a statistically significant difference at the 95% confidence level between the survival, reproduction, or growth of the test organism(s) in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism(s) in the control (0% effluent).

b. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures and quality assurance requirements specified in this Part of the permit and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Third Edition" (EPA-600-4-91-002), or the most recent update thereof:

1) Chronic static renewal survival and reproduction test using the water flea (Ceriodaphnia dubia) (Method 1002.0 or the most recent update thereof). This test should be terminated when 60% of the surviving adults in the control produce three broods. This test shall be conducted once per six months.

2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (Pimephales promelas) (Method 1000.0 or the most recent update thereof). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per six months.

The permittee must perform and submit a valid test for each test species during the required reporting period for that species. A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. The additional effluent concentrations for Outfall 001 are 7%, 10%, 13%, 17%, and 23% effluent. The critical dilution, defined as 17% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions. The additional effluent concentrations for Outfall 003 are 32%, 42%, 56%, 75%, and 100% effluent. The critical dilution, defined as 100% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.

d. This permit may be amended to require a Whole Effluent Toxicity (WET) limit, Chemical-Specific (CS) limits, a Best Management Practice (BMP), additional toxicity testing, and/or other appropriate actions to address toxicity. The permittee may be required to conduct additional biomonitoring tests and/or a Toxicity Reduction Evaluation (TRE) if biomonitoring data indicate multiple numbers of unconfirmed toxicity events.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

1) a control mean survival of 80% or greater;

2) a control mean number of Ceriodaphnia dubia neonates per surviving adult of 15 or greater;

3) a control mean dry weight of surviving fathead minnow larvae of 0.25 mg or greater;

4) a control Coefficient of Variation percent (CV%) of 40 or less in between replicates for the young of surviving females in the Ceriodaphnia dubia reproduction and survival test; and the growth and survival endpoints in the Pimephales promelas growth and survival test.

5) a critical dilution CV% of 40 or less for young of surviving females in the Ceriodaphnia dubia reproduction and survival test; and the growth and survival endpoints for the Pimephales promelas growth and survival test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test.

b. Statistical Interpretation

1) If the conditions of test acceptability are met and the survival of the test organism is equal to or greater than 80% in the critical dilution and all dilutions below that, the test shall be considered a passing test. The permittee shall report an No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.

2) For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Third Edition" (EPA/600/4-91/002), or the most recent update thereof.

3) For the Ceriodaphnia dubia reproduction test and the fathead minnow larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Third Edition" (EPA/600/4-91/002), or the most recent update thereof.

c. Dilution Water

1) Dilution water used in the toxicity tests shall be the receiving water collected at a point upstream of the discharge as close as possible to the discharge point, but unaffected by the discharge.

2) Where the receiving water proves unsatisfactory as a result of preexisting instream toxicity (i.e. fails to fulfill the test acceptance criteria of item 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of item 2.a;

b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days);

c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3 of this Section.

The synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or a natural water in the drainage basin that is unaffected by the discharge, provided the magnitude of these parameters will not cause toxicity in a synthetic dilution water control that has been formulated to match the pH, hardness, and alkalinity naturally found in the receiving water. Upon approval, the permittee may substitute other appropriate dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

1) The permittee shall collect a minimum of three flow-weighted 24-hour composite samples from Outfalls 001 and 003. The second and third 24-hour composite samples will be used for the renewal of the dilution concentrations for each toxicity test. A 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportionally to flow, or a sample continuously collected proportionally to flow over a 24-hour operating day.

2) The permittee shall collect the 24-hour composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first 24-hour composite sample. The holding time for any subsequent 24-hour composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 4 degrees Centigrade during collection, shipping, and storage.

4) If flow from the outfall being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time, are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with daily renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Part 3 of this Section.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Water Quality Assessment Team (MC 150) of the Water Permits & Resource Management Division.

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the Report Preparation Section of "Short-Term Methods for Estimating the Chronic

Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Third Edition" (EPA 600/4-91/002), or the most recent update thereof, for every valid and invalid toxicity test initiated whether carried to completion or not. All full reports shall be retained for 3 years at the plant site and shall be available for inspection by TNRCC personnel.

b. A full report must be submitted with the first valid biomonitoring test results for each test species and with the first test results any time the permittee subsequently employs a different test laboratory. Full reports need not be submitted for subsequent testing unless specifically requested. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit. All Table 1 reports must include the information specified in the Table 1 form attached to this permit.

1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12 month period.

2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6 month period.

3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th, for biomonitoring conducted during the previous calendar quarter.

4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes on the DMR for the appropriate parameters for valid tests only:

1) For the water flea, Parameter TLP3B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For the water flea, Parameter TOP3B, report the NOEC for survival.

3) For the water flea, Parameter TPP3B, report the NOEC for reproduction.

4) For the fathead minnow, Parameter TLP6C,enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

5) For the fathead minnow, Parameter TOP6C, report the NOEC for survival.

6) For the fathead minnow, Parameter TPP6C, report the NOEC for growth.

4. Persistent Lethality

The requirements of this Part apply only when a toxicity test demonstrates significant lethality at the critical dilution. Significant lethality is defined as a statistically significant difference, at the 95% confidence level, between the survival of the test organism in a specified effluent dilution when compared to the survival of the test organism in the control.

a. The permittee shall conduct a total of two additional tests (retests) for any species that demonstrates significant lethality at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality at the critical dilution, the permittee shall initiate the TRE requirements as specified in Part 5.

c. The provisions of item 4.a. are suspended upon completion of the two retests and submittal of the TRE Action Plan and Schedule defined in Part 5 of this Section.

5. Toxicity Reduction Evaluation

a. Within 45 days of the last test day of the retest that confirms significant lethality at the critical dilution, the permittee shall submit a General Outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and/or effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the last test day of the retest that confirms significant lethality at the critical dilution, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethal effects at the critical dilution for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:

1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and/or alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity;

3) Quality Assurance Plan - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.

d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical specific analyses for the identified and/or suspected pollutant(s) performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office (6WQ-PI) and the TNRCC Region 5 office.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality at the critical dilution for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and/or effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, then this permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing the WET limit, in lieu of an alternate toxicity control measure, by identifying and confirming the toxicant and/or an appropriate control measure.

f. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism(s). Copies of the Final Report on the TRE Activities shall also be submitted to the U.S. EPA Region 6 office (6WQ-PI) and the TNRCC Region 5 office.

g. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and/or to specify Chemical-Specific (CS) limits.

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING - OUTFALL 001

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

		Date Time	Date Time
Dates and Times Composites Collected	No. 1	FROM: _____	TO: _____
	No. 2	FROM: _____	TO: _____
	No. 3	FROM: _____	TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving Water _____ Synthetic Dilution Water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

	Percent effluent (%)					
REP	0%	7%	10%	13%	17%	23%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Surviv. Mean						
Total Mean						
CV%*						

*coefficient of variation = standard deviation x 100/mean (calculation based -on young of the surviving adults)

Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

BIOMONITORING REPORTING - OUTFALL 001

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean number of young produced per adult significantly less (p=0.05) than the number of young per adult in the control for the % effluent corresponding to significant nonlethal effects?

   CRITICAL DILUTION (17%): _____ YES _____ NO

PERCENT SURVIVAL

	Percent effluent (%)					
Time of Reading	0%	7%	10%	13%	17%	23%
24h						
48h						
End of Test						

2. Fisher's Exact Test:

   Is the mean survival at test end significantly less (p=0.05) than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (17%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC below :

   a.) NOEC survival = _____% effluent

   b.) NOEC reproduction = _____% effluent

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING - OUTFALL 001

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

			Date Time		Date Time
Dates and Times Composites Collected	No. 1	FROM:	_____	TO:	_____
	No. 2	FROM:	_____	TO:	_____
	No. 3	FROM:	_____	TO:	_____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving Water _____ Synthetic Dilution Water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration (%)	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
7%							
10%							
13%							
17%							
23%							

* coefficient of variation = standard deviation x 100/mean

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to significant nonlethal effects?

   CRITICAL DILUTION (17%): _____ YES _____ NO

TABLE 1 (SHEET 4 OF 4)

BIOMONITORING REPORTING - OUTFALL 001

FATHEAD MINNOW GROWTH AND SURVIVAL TEST

FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration (%)	Percent Survival in replicate chambers					Mean percent survival			CV %*
	A	B	C	D	E	24h	48h	7 day	
0%									
7%									
10%									
13%									
17%									
23%									

* coefficient of variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less (p=0.05) than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (17%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC below:

   a.) NOEC survival = _____% effluent

   b.) NOEC growth = _____% effluent

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING -OUTFALL 003

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

			Date	Time		Date	Time
Dates and Times Composites Collected	No. 1	FROM:	_____		TO:	_____	
	No. 2	FROM:	_____		TO:	_____	
	No. 3	FROM:	_____		TO:	_____	

Test initiated:_____am/pm _____date

Dilution water used: _____ Receiving Water _____ Synthetic Dilution Water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

	Percent effluent (%)					
REP	0%	32%	42%	56%	75%	100%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Surviv. Mean						
Total Mean						
CV%*						

*coefficient of variation = standard deviation x 100/mean (calculation based on young of the surviving adults)

Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

BIOMONITORING REPORTING - OUTFALL 003

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean number of young produced per adult significantly less (p=0.05) than the number of young per adult in the control for the % effluent corresponding to significant nonlethal effects?

   CRITICAL DILUTION (100%): _____ YES _____ NO

PERCENT SURVIVAL

	Percent effluent (%)					
Time of Reading	0%	32%	42%	56%	75%	100%
24h						
48h						
End of Test						

2.– Fisher's Exact Test:

   Is the mean survival at test end significantly less (p=0.05) than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (100%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC below :

   a.) NOEC survival = _____% effluent

   b.) NOEC reproduction = _____% effluent

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING - OUTFALL 003

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

		Date Time		Date Time
Dates and Times Composites Collected	No. 1	FROM: _____	TO:	_____
	No. 2	FROM: _____	TO:	_____
	No. 3	FROM: _____	TO:	_____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving Water _____ Synthetic Dilution Water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration (%)	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
32%							
42%							
56%							
75%							
100%							

* coefficient of variation = standard deviation x 100/mean

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to significant nonlethal effects?

   CRITICAL DILUTION (100%): _____ YES _____ NO

TABLE 1 (SHEET 4 OF 4)

BIOMONITORING REPORTING - OUTFALL 003

FATHEAD MINNOW GROWTH AND SURVIVAL TEST

FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration (%)	Percent Survival in replicate chambers					Mean percent survival			CV %*
	A	B	C	D	E	24h	48h	7 day	
0%									
32%									
42%									
56%									
75%									
100%									

* coefficient of variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less (p=0.05) than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (100%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC below:

   a.) NOEC survival = _____% effluent

   b.) NOEC growth = _____% effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this Section apply individually and separately to Outfalls 001 and 003 for whole effluent toxicity testing (biomonitoring). No samples or portions of samples from one outfall may be composited with samples or portions of samples from another outfall.

1. Scope, Frequency and Methodology

a. The permittee shall test the effluent for lethality in accordance with the provisions in this Section. Such testing will determine compliance with the Surface Water Quality Standard, 30 TAC §307.6(e)(2)(B), of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition" (EPA 600/4-90/027F), or the most recent update thereof:

1) Acute 24-hour static toxicity test using the water flea (Daphnia pulex). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

2) Acute 24-hour static toxicity test using the fathead minnow (Pimephales promelas). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, then repeat, an invalid test during the same reporting period. The repeat test shall include the control and all effluent dilutions and use the appropriate number of organisms and replicates, as specified above. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in item 2.b., the control and/or dilution water shall consist of a standard, synthetic, moderately hard, reconstituted water.

d. This permit may be amended to require a Whole Effluent Toxicity (WET) limit, a Best Management Practice (BMP), Chemical-Specific (CS) limits, additional toxicity testing, and/or other appropriate actions to address toxicity. The permittee may be required to conduct additional biomonitoring tests and/or a Toxicity Reduction Evaluation (TRE) if biomonitoring data indicate multiple numbers of unconfirmed toxicity events.

e. If the biomonitoring dilution series specified in the Chronic biomonitoring requirements includes a 100% effluent concentration, those results may fulfill the requirements of this Section. The results of any test with a 100% effluent concentration performed in the proper time interval may be substituted in lieu of performing a separate 24-hour acute test. Compliance will be evaluated as specified in item a. The greater than 50% survival in 100% effluent for a 24-hour period standard applies to all tests utilizing a 100% effluent dilution, regardless of whether the results are submitted to comply with the minimum testing frequency defined in item b.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.

b. Dilution Water - In accordance with item 1.c., the control and/or dilution water shall normally consist of a standard, synthetic, moderately hard, reconstituted water. If the permittee utilizes the results of a 48-Hour Acute test or a Chronic test to satisfy the requirements in item 1.e., the permittee may use the receiving water or dilution water that meets the requirements of item 2.a. as the control and dilution water.

c. Samples and Composites

1) The permittee shall collect one flow-weighted 24-hour composite sample from Outfall 001 and 003. A 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow, or a sample continuously collected proportional to flow over a 24-hour operating day.

2) The permittee shall collect the 24-hour composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the 24-hour composite sample. Samples shall be maintained at a temperature of 4 degrees Centigrade during collection, shipping, and storage.

4) If the Outfall ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report required in Part 3 of this Section.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Water Quality Assessment Team (MC 150) of the Water Permits & Resource Management Division.

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the Report Preparation Section of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition" (EPA 600/4-90/027F), or the most recent update thereof, for every valid and invalid toxicity test initiated. All full reports shall be retained for three years at the plant site and shall be available for inspection by TNRCC personnel.

b. A full report must be submitted with the first valid biomonitoring test results for each test species and with the first test results any time the permittee subsequently employs a different test laboratory. Full reports need not be submitted for subsequent testing unless specifically requested. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit. All Table 2 reports must include the information specified in the Table 2 form attached to this permit.

1) Semiannual biomonitoring test results are due on or before January 20th and July 20th for biomonitoring conducted during the previous 6 month period.

2) Quarterly biomonitoring test results are due on or before January 20th, April 20th, July 20th, and October 20th, for biomonitoring conducted during the previous calendar quarter.

c. Enter the following codes on the DMR for the appropriate parameters for valid tests only:

1) For the water flea, Parameter TIE3D, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

2) For the fathead minnow, Parameter TIE6C, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

4. Persistent Mortality

The requirements of this Part apply when a toxicity test demonstrates significant lethality, here defined as a mean mortality of 50% or greater to organisms exposed to the 100% effluent concentration after 24-hours.

a. The permittee shall conduct two additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for two weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.

b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5 of this Section.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a General Outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and/or effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethality for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:

1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and/or alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification

Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/60-0/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity;

3) Quality Assurance Plan - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.

d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly TRE Activities Reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and/or suspected pollutant(s) performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and

6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office (6WQ-PI) and the TNRCC Region 5 office.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality at the critical dilution for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and/or effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, then this permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing the WET limit, in lieu of an alternate toxicity control measure, by identifying and confirming the toxicant and/or an appropriate control measure.

f. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall specify the control mechanism(s) that will, when implemented, reduce effluent toxicity as specified in item 5.g. The report will also specify a corrective action schedule for implementing the selected control mechanism(s). The permittee shall also submit copies of the Final Report on the TRE Activities to the U.S. EPA Region 6 office (6WQ-PI) and the TNRCC Region 5 office.

g. Within three years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC 307.6.(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE.

The requirement to comply with 30 TAC 307.6.(e)(2)(B) may be exempted upon proof that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g. metals) form a salt compound. Following the exemption, the permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

h. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and/or to specify a Chemical-Specific (CS) limit(s).

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN*						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 (Daphnia or Ceriodaphnia) = _____% effluent
(circle appropriate genus)

95% confidence limits: _____

Method of LC50 calculation:_____

* If 24-hour survivorship data from the chronic Ceriodaphnia dubia test is being used, the mean survival per dilution for all 10 replicates shall be reported on this row.

TABLE 2 (SHEET 2 OF 2)

FATHEAD MINNOW SURVIVAL

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 (Pimephales) = _____% effluent

95% confidence limits: _____

Method of LC50 calculation:_____